

REBUILDING THE ARMY VIETNAM TO DESERT STORM

The end of American ground forces' direct participation in the Vietnam War in January 1973 left the U.S. Army a much weakened institution. Public trust in the Army was at a low point, with many blaming the military for the war as much as they blamed the civilian policymakers whose orders the military was carrying out. Many of the soldiers who returned from Vietnam faced a hostile or at best indifferent public reception. A number of soldiers had become drug addicts in Vietnam, where the supply of heroin was plentiful. Discipline, especially in the rear base camps, had begun breaking down in many units toward the end of the war as it became apparent that America was only interested in leaving Vietnam. A common saying of the time was that no one wanted to be the last man to die in Vietnam. Racial tension and even instances of "fragging" (tossing a fragmentation grenade into the sleeping quarters or office of a superior officer or noncommissioned officer [NCO] to injure or "warn") led to some unit-cohesion problems. The Army that left Vietnam and returned to America and its garrisons in Germany and Korea in the early 1970s was at low ebb of morale, discipline, and military effectiveness.

The problems did not go away immediately with the end of the war. For those career soldiers and officers who remained in the Army, drug problems, poor leadership (especially at the junior NCO and officer levels), and severe racial problems often split units into hostile camps. Race riots were not uncommon, especially in the understrength *kasserns* of Germany as the Army tried to rebuild its European units that had been drained to support the Vietnam War. With the expiration of Selective Service induction authority on June 30, 1973, the establishment of a new, all-volunteer Army was under way. Many wondered if the Army could recover sufficiently to recruit enough quality soldiers and, even if it did so, if the country would be able to pay the bill. The result was far from certain.

THE ARMY IN GERMANY

Throughout the seventies, funding shortages undermined the readiness and morale of American soldiers in Germany. U.S. Army, Europe (USAREUR), suffered from under investment and under maintenance. Bad housing, dilapidated facilities, worn equipment, and inadequate training were the rule. The situation changed in the eighties. Large increases in USAREUR's capital budget made up for years of parsimony, while stepped-up training improved U.S. combat capabilities. For the remainder of the 1980s, the U.S. Army in Germany was perhaps the most-desired training and operational assignment for Army personnel.

The All-Volunteer Force

Even while the Vietnam War was raging, the Army and the Department of Defense had begun tentative planning to transition to an all-volunteer force. For most planners, this was new ground. Except for a short period of time immediately after World War II, the Army had not had a volunteer force since just before the United States entered World War II. Commanders could rely upon the steady flow of young men of reasonable physical and mental quality, since they had the entire manpower of the country to draw upon. Recruiting was not a high priority: it was not seen as entirely necessary. Why struggle to meet a quota for recruits when the draft guaranteed enough men to fill the force? The reserve components, both the National Guard and Army Reserve, were at full strength and even overstrength, as young men flocked to those units to fulfill their service obligations with a minimal risk of going to Vietnam.

With the election of President Richard M. Nixon in 1968, the prospect of ending the draft became a real possibility. As a result, the Defense Department started a study project entitled Project Volunteer in November 1968 to determine the feasibility of recruiting an all-volunteer force while still maintaining military effectiveness. Quickly, many key issues began surfacing: how to get enough high-quality soldiers, how to keep them, how to pay for them, and what management and leadership practices would create an effective military force out of this voluntary manpower.

In January 1969 the process of ending the draft accelerated. The newly inaugurated President specifically requested that the Defense Department take action to eliminate the draft and create an all-volunteer force. He formed an advisory commission, called the Gates Commission, to develop a complete plan on how to implement the new force. The Army, the service most affected by manpower levels, began its own study on how it could implement such an idea. Project Volunteer in Defense of the Nation (PROVIDE) addressed such topics such as cost, standards of quality, personnel management, numbers needed to recruit, and even the possible socioeconomic impact of an all-volunteer force.

Perhaps the biggest single hurdle in creating an all-volunteer force was money. The draft brought in young men for a short period of service at artificially low wages, essentially "taxing" a segment of society.

With the ending of that tax, the government would have to find enough money to provide monetary incentives—viable wages and even bonuses for some specialties—for new recruits. Without competitive pay, the Army could not enlist or retain the best soldiers. Money was also needed for advertising for the U.S. Army Recruiting Command (USAREC) if the Army was to become an attractive career choice and bring in enough quality American youths.

Some negative aspects of Army life also required additional funding to eliminate. With virtually unlimited manpower, the Army over the years had diverted more and more of its soldiers to nonmilitary, even menial, tasks. Army posts had soldiers cutting the grass, painting quarters, working as “kitchen police” (KP) in the mess halls, and functioning as clerks in various support and morale activities often unrelated to military skills. Many considered Army soldiers just a source of “cheap” manpower. With the ending of the draft, however, the Army could no longer afford to waste manpower or divert highly trained soldiers to menial tasks. As the time for the end of the draft grew closer, the Army began lobbying for more money to hire civilian workers to take over many of the tasks deemed unsuitable for soldiers. This improved morale and increased the training time available for soldiers to improve their individual and unit military skills. Soldiers were on their way to being treated as professionals again, not merely as cheap, unskilled manpower. Money by itself was not enough, but it went a long way toward redressing some of the young soldiers’ worst grievances.

As the Nixon administration reiterated its commitment to ending the draft, the Army moved to implement the new concept. In October 1970 Chief of Staff of the Army General William C. Westmoreland created the position of Special Assistant for the Modern Volunteer Army (SAMVA) to head the Modern Volunteer Army (MVA) program and appointed Lt. Gen. George I. Forsythe. Forsythe faced a formidable challenge as he tried to lay out a blueprint for what would amount to a major cultural change while a war still raged in Southeast Asia.

The most obvious problem the new volunteer Army faced was the difficulty of attracting and keeping enough manpower. Without a sufficient number of recruits, the entire experiment would collapse. The Army faced problems with raw manpower needs and with the basic requirement of getting enough soldiers to join the critical combat arms of Infantry, Field Artillery, and Armor. Fewer than half the men entering the Army in 1970 were considered volunteers, and only 4 percent of them joined the combat arms. Yet the Army, still involved in combat in Vietnam, needed thousands of combat soldiers. To make the new volunteer force work, the Army estimated that it had to increase enlistments for the combat arms by about 300 percent by June 1973. To achieve this goal, in the midst of an increasingly unpopular war for which all the services were beginning to share the blame, was going to require innovative leadership and a willingness to experiment, in addition to much more money.

One of the more controversial experiments under the MVA program was Project VOLAR (Volunteer Army) conducted at selected Army posts (Forts Benning, Carson, and Ord, joined by Bragg in April 1971) from January 1, 1971, to June 30, 1972. This project experimented with ways to raise morale, increase retention rates, and decrease

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disciplinary problems (especially absent without leave, or AWOL, rates) to prove that with the right combination of leadership and incentives a volunteer force was possible. At each selected post, the leadership abolished harassing or "Mickey Mouse," details; civilianized the infamous KP duties; relaxed grooming standards; allowed for weekends without duty or inspections; established junior enlisted councils to provide another channel for grievances; and put forth a host of other initiatives. When implemented consistently by conscientious officers and NCOs, the initiatives often resulted in soldiers' being treated like mature adults and not like children, with a concomitant increase in pride, morale, and reenlistment rates.

However, some ill-thought-out VOLAR initiatives such as beer in the barracks or severe relaxation of grooming and discipline standards led to more problems than they solved and presented the impression of a loss of control. Some programs, if implemented by poor leaders not really interested in taking care of soldiers or not believing that the volunteer force would work, sometimes led to a collapse of discipline, exacerbated existing racial problems, and alienated officers and non-commissioned officers. This time of experimentation showed what the Army needed to do to restore morale and improve the quality of life for soldiers, but it also revealed what it needed to avoid in order rebuild the force after decades of relying on the draft. The initial media and Army focus on making the Army more permissive and attractive soon faded as commanders and soldiers realized that the more important initiatives revolved around more and better training, instilling in the soldiers a stronger sense of professionalism, and building greater individual and unit pride.

With the formal ending of direct U.S. involvement in the Vietnam War and the formal establishment of the all-volunteer Army in 1973, the need to make the Army an effective military force rested first and foremost on the need to recruit more soldiers. At first it seemed an impossible task. Month after month in 1973 the Army, like many of the other services, failed to meet its recruiting quotas. Recruiters were initially able to fill only 68.5 percent of their quota for enlisting first-term male soldiers. Attempts to hold the line for high-quality recruits, those with high school diplomas, seemed doomed to failure. Some, including members of Congress, began claiming that the Army was secretly intent on subverting the Modern Volunteer Army Program and returning to the "safe" days of the unlimited manpower of the draft. Even with the reduction of the authorized end strength of the Army to 781,000 in 1974, the Army ended fiscal year 1973, the last year of the draft, under-strength by almost 14,000.

The pivotal year for the survival of the all-volunteer Army was fiscal year 1974 (July 1, 1973–June 30, 1974). For the first time, recruiting began to turn the corner; in November 1973 recruiting quotas were topped. Army recruiters enlisted 104 percent of their overall quota in that month. By June of the following year, they had attained 123 percent of their quota. Of those recruited, 84 percent were in the average or above average mental groups, proving that the Army was starting to turn the corner on quality enlistees.

There were a number of reasons for this turnaround in recruiting. First, the smaller size of the Army helped. The Army during Vietnam

had peaked at 1.57 million soldiers in 1968 and declined to an authorized end strength of 785,000 by the end of June 1974. This relaxed some of the pressure on the recruiters. Congress also helped when it authorized bonuses for thirty-two of the most critical skills, including the combat arms, the Army needed. Congress had also authorized additional incentive pay bonuses for recruiters. With more and better-paid recruiters on the street and better deals to offer, the Army reached more and more contacts. Finally, the Army leadership, in particular Secretary of the Army Howard H. "Bo" Callaway, began to show an unwavering commitment to making the all-volunteer force succeed. The Army realized that there was no going back to the draft. As recruiting slogans changed from "The Army wants to join you" to "Join the people who have joined the Army" and finally to the classic "Be all that you can be, in the Army," the number and quality of recruits continued to increase.

Another reason for the improvement in the recruitment rates for the Army had lasting consequences. The Army, at first out of necessity and later out of a realization that it needed the highest-quality recruits it could get, began actively to expand the number of women in the Army and increased the numbers of specialties they could perform. From about 1948, the number of women in the Army had been limited to no more than 2 percent of the end strength. They were excluded from most combat and combat support (CS) specialties and concentrated in the clerical and supply fields. Married women could not enlist, and women who became pregnant in the service faced mandatory discharge. To meet the new all-volunteer Army manpower quotas, all that would have to change.

The changes in the role of women in the Army proceeded slowly but inexorably as the talent, skill, and dedication women brought to their task made believers out of the somewhat conservative male Army leadership. The numbers of women recruited went from 10,900 a year to 25,130 a year in just five years. By 1978 there were 53,000 women in the Army, growing to around 80,000 by the end of fiscal year 1983. The Army could not have made its recruiting quotas without this dramatic expansion of the number of women who willingly joined the service.

Training for women dramatically improved; new skill areas, many previously all male, opened for females. Units increasingly were mixed gender, and women were no longer discharged for pregnancy. Women were soon training on the use of small arms, initially on a voluntary basis, beginning in Women's Army Corps basic training in July 1974. Then, in a major symbolic event, 119 women were admitted to the U.S. Military Academy at West Point for the first time in July 1976, graduating as members of the class of 1980. The integration of women into the Army was so complete and irreversible that in Octo-



A Female Drill Instructor Training Recruits in Basic Rifle Marksmanship



Servicing the Engine of a CH-47 Chinook Helicopter

ber 1978 the Women's Army Corps was disestablished and all women were assigned to branches for management purposes just as all other soldiers. During time of war, they went to the theater just as men did. When the Army deployed to the Persian Gulf in 1990, 8.6 percent of the total force deployed to Saudi Arabia, 26,000, were women.

The increase in the number of women in the Army did not occur without problems. Change never comes easy to a large and somewhat conservative organization. Women continued to be excluded from the combat arms despite strong lobbying by women's organizations that often had their own agendas. This was codified to a certain extent by a February 1988 "risk rule" approved by then Secretary of Defense Richard Cheney. This rule prevented women from serving in positions where there was risk of direct combat or exposure to hostile fire or capture. Although modified over the years, much of this exclusion policy remained in place to the dismay of many females who believed their careers were thereby restricted.

Even more serious problems arose with the increase of sexual harassment charges and fraternization problems in the Army. With more women in units, there were more instances reported of inappropriate language, gestures, or actions of a sexual nature directed at women. As a result, the Army established regulations and policies (tied closely to the equal opportunity program that continued to grapple with lingering racial prejudice in the Army) to cope with the inevitable problems as a predominately male military adjusted to the greater number of female soldiers. Fraternization between soldiers, especially between superiors and subordinates (generally, but by no means always, between male superior officers and NCOs and subordinate females) was also an increasing problem as the Army tried to regulate human behavior in the Army workplace. Neither of these challenges was completely solved; but as the Army grew more professional and women began "proving" themselves as soldiers, male and female soldiers and officers began treating each other with the respect due a professional. Like racism, however, prob-

lems with sexual harassment and inappropriate relationships between ranks did not vanish completely and programs continued in place to mitigate the problem as much as possible.

While Army enlistments, the integration of women, and disputes about the quality of the soldiers would fluctuate in the 1970s and 1980s, the all-volunteer Army slowly proved itself a tremendous success. Training became tougher, standards were raised higher, and all levels of the Army began rediscovering the pride that comes with doing a job well. Recruitment rates remained relatively healthy throughout the buildup of forces during the tenure of President Ronald H. Reagan. However, it was also increasingly important to spread these changes in training and improvements in pride throughout the entire Army, including the Army Reserves and National Guard. A smaller Army necessarily relied more heavily upon its reserve components.

The Total Force Policy

The Army's reliance on its reserve components changed the very nature of its active and reserve force structure and mobilization plans. The resulting Total Force Policy grew out of the closing days of the Vietnam War. In 1969 President Nixon established a policy of Vietnamization, under which the burden of the war was increasingly transferred to the South Vietnamese Army. This action and the eventual U.S. withdrawal from Vietnam in 1973 meant, among other things, lower defense budgets. Secretary of Defense Melvin R. Laird announced in August 1970 a Total Force Concept: there would be reductions in all facets of the active forces and concomitantly increased reliance on the reserve components for both combat and combat support capabilities. In 1973 this concept was declared policy by Laird's successor as Secretary of Defense, James R. Schlesinger. Thus the major reason behind the enunciation of the Total Force Policy was more budgetary and circumstantial than philosophical.

There were also modernization imperatives behind why the Army so readily accepted and institutionalized the Total Force Policy. Because the buildup for the Vietnam War had been accomplished by adding to the active forces instead of mobilizing the reserve components, there was a redundancy between the active force and the reserve components in certain types of units. Removing support capabilities from the active force and placing them in the reserve components not only solved the problem of duplication, it also saved money for the modernization of the active force. Having postponed modernization to meet the exigencies of the war in Southeast Asia, the Army could now afford to begin the long, slow process of becoming a more capable force but at the cost of increasing dependence on the reserves.

The budgetary and modernization rationales for the Total Force Policy do not fully explain the degree of dependence on the reserve components that the Army developed in the 1970s, however. The budget reductions meant a much smaller Army. From its Vietnam War high strength of 1.57 million in fiscal year 1968, the Army declined to 785,000 in fiscal year 1974. Army Chief of Staff General Creighton W. Abrams, Jr., in 1973 set up a study group that postulated a future multipolar world in which thirteen active Army divisions would constitute a



Women's Utility Coat, Olive Drab-107, 1970

CREIGHTON W. ABRAMS (1914–1974)

As an armor officer steeped in conventional tactics, General Abrams was perhaps an unlikely choice to command MACV; but his experience as Westmoreland's deputy and a creative mind served him well during his tenure in Vietnam from July 1968 to June 1972. Like his predecessor, Abrams sought to fight the war within the restrictions Washington placed on him. However, the rules changed somewhat when President Nixon took office in 1969. Abrams was allowed to launch two cross-border incursions against enemy base areas, one into Cambodia in May 1970 and the second into Laos in February 1971. General Abrams became the twenty-seventh Chief of Staff of the Army in 1972 and began the long process of rebuilding the Army after the Vietnam War. He died in office in 1974.



General Abrams

“high-risk” force. Could such a small Army fulfill all its obligations and still retain an adequate contingency force?

In response, General Abrams obtained the Secretary of Defense's approval to increase the Army's active divisions to sixteen without an increase in Army end strength. Abrams laid the basis for the sixteen divisions by shifting manpower from the Table of Distribution and Allowances (TDA) Army (headquarters and educational infrastructure) to Table of Organization and Equipment (TO&E) units, assigning reserve component “round-out” brigades as integral units in late-deploying active divisions, and moving combat support and combat service support (CSS) functions to the reserve components. By the end of fiscal year 1973, 66 percent of CS/CSS was in the reserve components.

General Abrams and much of the Army's senior leadership, following the lead of Secretaries of Defense Laird's and Schlesinger's commitment to the total force policy, believed that President Lyndon B. Johnson's failure to fully mobilize the reserve components was a major cause of the lack of popular support for the Vietnam War. By helping ensure that the Army could not be involved in a major war again without the reserve components, Abrams and his successors sought to prevent such insufficient support in the future. The Army leadership realized that one of the dangers of a volunteer Army was that an elite professional force might weaken the bonds between the American people and the service that the draft had engendered. Greater integration of the reserve components into the active force would strengthen the Army's ties with the states, the Congress, and the public. Such ties were seen as increasingly important: the collapse of the national will to continue the struggle, rather than outright military defeat, had essentially ended the Vietnam War.

As the Army implemented its new Total Force Policy, the National Guard and Army Reserve recovered from Vietnam and the immediate

post-Vietnam War doldrums to gain new heights of readiness. Each component was reduced in size throughout the 1970s but rebounded by the end of the 1980s. The National Guard, at an authorized strength of 402,175 in 1971, was down to only 368,254 soldiers a decade later, only to increase to 456,960 by 1989. The Army Ready Reserve end strength was only at 263,299 in 1971 and fell with the end of the draft to 202,627 by 1980. However, it had recovered to the level of 312,825 soldiers by 1989. By the eve of Operation DESERT SHIELD/STORM in 1990, the Guard and the Army Reserve would be, like their active-duty counterparts, as strong and well trained as they ever had been in the nation's history.

New Doctrine

The new volunteer Total Army needed more than mere numbers. It needed a mission; it needed to focus on what type of war it might need to fight. As a result, the Army began developing a new doctrine to regain its perspective and focus on its new missions after Vietnam. A reassessment of how the Army would fight began in essence with President Nixon's 1969 Guam Doctrine, in which he stated that the United States would maintain a smaller defense establishment to fight a "1 1/2 war" contingency. This was generally interpreted to mean that the Army would prepare to engage in a general war, probably in the European or Northeast Asian theaters, and at the same time fight a minor conflict, presumably a Third World counterinsurgency.

Nixon's smaller Army vision faced growing challenges, however. American intelligence agencies in the early 1970s noted an increase of five Soviet armored divisions in Europe, the continued restationing of Soviet Army divisions farther to the west, and a major improvement in equipment, with T-62 and T-72 tanks replacing older models and with a corresponding modernization of other classes of weapons. If general war had come to Europe during the 1970s, the U.S. Army and its North Atlantic Treaty Organization (NATO) allies would have confronted Warsaw Pact armies that were both numerically and qualitatively superior. With the Army mired down in Vietnam and with modernization postponed, this was a very sobering prospect.

The Arab-Israeli War that began on October 6, 1973, further intensified concerns about the modernization and preparedness of the Army for intense ground combat. The deadliness of modern weapons as well as the Army's Vietnam-era concentration on infantry-airmobile warfare at the expense of other forces led many to believe that we could not fight this new type of war. American observers who toured the battlefields of Egypt and Syria began to create a new tactical vocabulary when they reported on the "new lethality" of a Middle Eastern battlefield where in one month of fighting the Israeli, Syrian, and Egyptian Armies lost more tanks and artillery than the entire U.S. Army, Europe, possessed. Improved technology in the form of antitank and antiaircraft guided missiles, much more sophisticated and accurate fire-control systems, and vastly improved tank cannons heralded a far more costly and lethal future for conventional war.

Technology likewise brought changes to battlefield tactics. Egyptian infantry armed with missiles enjoyed significant successes against Israeli



General DePuy

tank units, bolstering the importance of carefully coordinated combined-arms units. It seemed clear that in future wars American forces would fight powerful and well-equipped armies with soldiers proficient in the use of extremely deadly weapons. Such fighting would consume large numbers of men and quantities of materiel. It became imperative for the Army to devise a way to win any future war quickly.

A new operations field manual, the Army's specific response to new conditions that required new doctrine, was preeminently the work of General William E. DePuy, commander of the new U.S. Army Training and Doctrine Command (TRADOC). General DePuy, a combat-tested infantry officer in World War II and the commander of the 1st Infantry Division in Vietnam during some of its hardest fighting, brought a wealth of experience to his position. Surveying conditions of modern warfare that appeared to reconfirm the lessons he and his men had learned so painfully in World War II, DePuy in 1976 wrote much of a new edition of Field Manual (FM) 100-5, *Operations*, the Army's premier tactical doctrine manual of the time. DePuy's FM 100-5 initially touted a concept known as the Active Defense, which once more focused on "the primacy of the defense." The handbook evolved from its first publication to become the keystone of a family of Army manuals that completely replaced the doctrine practiced at the end of the Vietnam War.

From these modest beginnings the Army's new doctrine, AirLand Battle, slowly emerged. In its final form AirLand Battle doctrine was actually a clear articulation of fundamentals that American generals had understood and practiced as early as World War II, with an appropriate and explicit recognition of the role air power played in making decisive ground maneuver possible. The U.S. Army Command and General Staff College at Fort Leavenworth, Kansas, acknowledged AirLand Battle's basis in traditional concepts of maneuver warfare by teaching it and making frequent use of historical examples to explain its principles more fully.

In practical terms, the doctrine required commanders to simultaneously supervise three types of operations: close, deep, and rear. In close operations, large tactical formations such as corps and divisions fought

FM 100-5

After Vietnam, Army planning emphasized the Warsaw Pact threat to NATO, in particular the need for U.S. forces to defeat a technically sophisticated and numerically superior opponent. This problem required a new approach, presented in the 1976 edition of Field Manual 100-5, *Operations*, the Army's central doctrinal publication. This Active Defense concept emphasized the tank as the pivotal element of land forces, promoted the concentration of fires over the concentration of forces wherever practical, and advocated replacement of tactical reserves with the lateral movement of unengaged forward units behind a strong covering force. Such a radical departure from earlier doctrine proved both controversial and difficult to implement in the field, especially outside the NATO area. The next edition of FM 100-5, issued in 1982 and revised in 1986, was organized around the idea of AirLand Battle, a more generalized concept stressing aggressive operations in depth with an increased emphasis on the exploitation of tactical air power.

battles through maneuver, close combat, and indirect fire support. Deep operations helped to win the close battle by engaging enemy formations not by contact, but chiefly through deception, deep surveillance, and ground and air interdiction of enemy reserves. Objectives of deep operations were to isolate the battlefield and influence when, where, and against whom later battles would be fought. Rear operations proceeded simultaneously with close and deep operations and focused on assembling and moving reserves in the friendly rear areas, redeploying fire support, continuing logistical efforts to sustain the battle, and providing continuity of command and control. Security operations, traffic control, and communications maintenance were critical to rear operations.

After 1976 AirLand Battle generated an extended doctrinal and tactical discussion in the service journals that helped to clarify and occasionally to modify the manual. General Donn A. Starry, who succeeded DePuy in 1977 at the Training and Doctrine Command, directed a substantial revision that concentrated on the offensive and added weight to the importance of deep operations by stressing the role of deep ground and air attack in disrupting the enemy's follow-on echelons of forces. Changes mainly dealt with ways to exploit what noted historian Basil H. Liddell Hart described as the indirect approach in warfare by fighting the enemy along a line where he least expects it.

In 1982 the Army modified FM 100-5 to stress that the Army had to "fight outnumbered and win" the first battle of the next war, an imperative that required a trained and ready peacetime force. The manual acknowledged the armored battle as the heart of warfare, with the tank as the single most important weapon in the Army's arsenal. Success, however, hinged on a deft manipulation of all the arms, especially Infantry, Engineers, Artillery, and Air Power, to give free rein to the maneuver forces. Using that mechanized force, the doctrine required commanders to seize the initiative from the enemy; act faster than the enemy could react; exploit depth through operations extending in space, time, and resources to keep the enemy off balance; and synchronize the combat power of ground and air forces at the decisive point of battle.

AirLand Battle doctrine had additional utility because it helped to define both the proper equipment for its execution and the appropriate organization of military units for battle. This, along with the widespread promulgation of common terms and concepts, was at the very roots of the need for doctrine. Thus the new AirLand Battle doctrine explicitly acknowledged the growth of technology both as a threat and as a requirement for new equipment to meet the threat. The U.S. Army and its NATO allies could not hope to match Soviet and Warsaw Pact forces either in masses of manpower or in floods of materiel. To that extent, AirLand Battle served as the basis for both an organizational strategy and a procurement rationale. To fight outnumbered and survive, the Army needed to better employ the nation's qualitative edge in technology.

New Equipment

Military theorists generally agree that a defending army can hope for success if the attacking enemy has no greater than a 3:1 advantage in combat power. The best intelligence estimates in the 1970s concluded



General Starry

that the Warsaw Pact armies enjoyed a much larger advantage. Continuing budget constrictions made unlikely the possibility of increasing the size of the American military to match Soviet growth. To solve the problem of how to fight an enemy that would almost certainly be larger, the United States relied in part on technologically superior hardware that could defeat an enemy with an advantage ratio higher than 1:3. To achieve that end, the Army in the early 1970s began work on the new “big five” equipment systems: a tank, an infantry combat vehicle, an attack helicopter, a transport helicopter, and an anti-aircraft missile.

Several factors affected new equipment design. Among the most important was the flourishing technology encouraged by the pure and applied research associated with space programs. Although the big five equipment originated in the years before AirLand Battle was first enunciated, that doctrine quickly had its effect on design criteria. Other factors were speed, survivability, and good communications, essential to economize on small forces and give them the advantages they required to defeat larger, but presumably more ponderous, enemies. Target acquisition and fire control were equally important, since the success of a numerically inferior force depended heavily on the ability to score first-round hits.

Even such simply stated criteria were not easy to achieve, with compromises and trade-offs often necessary between weight, speed, and survivability. All of the weapon programs suffered through years of mounting costs and production delays. A debate that was at once philosophical and fiscal raged around the new equipment, with some critics preferring simpler and cheaper machines fielded in greater quantities. The Department of Defense persevered, however, in its preference for technologically superior systems and managed to retain funding for most of the proposed new weapons. Weapon systems were expensive, but defense analysts recognized that personnel costs were even higher and pointed out that the services could not afford the manpower to operate increased numbers of simpler weapons. Nevertheless, spectacular procurement failures, such as the Sergeant York Division Air Defense (DIVAD) weapon, kept the issue before the public; such cases kept program funding for other equally complex weapons on the debate agenda.

The first of the big five systems was the M1 tank, soon to be named after General Abrams, a noted World War II tank leader who had died in 1974 during his tenure as Chief of Staff. Despite some growing pains, the tank weathered considerable criticism that in fact had derived from the failure of a preceding tank program. The standard tanks in the Army inventory had been various models of the M48 and M60, both surpassed in some respects by new Soviet equipment. The XM803 succeeded the abortive joint American-German Main Battle Tank-70 project and was intended to modernize the armored force. Concerned about expense, Congress withdrew funding for the XM803 in December 1971, thereby canceling the program, but agreed to leave the remaining surplus of \$20 million in Army hands to continue conceptual studies.

For a time, designers considered arming tanks with missiles for long-range engagements. This innovation worked only moderately well in the M60A2 main battle tank and the M551 Sheridan armored re-

connaissance vehicle, both armed with the MGM51 Shillelagh gun-launcher system. In the late 1960s tank guns were rejuvenated by new technical developments that included a fin-stabilized, very-high-velocity projectile that used long-rod kinetic energy penetrators. Attention centered on 105-mm. and 120-mm. guns as the main armament of any new tank.

Armored protection was also an issue of tank modernization. The proliferation of antitank missiles that could be launched by infantry, antitank vehicles, or mounted on helicopters demonstrated the need for considerable improvement. At the same time, weight was an important consideration because the speed and agility of the tank would be important determinants of its tactical utility. No less important was crew survivability; even if the tank were damaged in battle, it was important that a trained tank crew have a reasonable chance of surviving to man a new vehicle.

The Army made the decision for a new tank series in 1972 and awarded developmental contracts in 1973. The first prototype of the M1, known as the XM1, reached the testing stage in 1976; the tank began to arrive in battalions in February 1980. The M1 enjoyed a low silhouette and a very high speed, thanks to an unfortunately voracious gas turbine engine. Chobham spaced armor (ceramic blocks set in resin between layers of conventional armor) resolved the problem of protection versus mobility. A sophisticated fire-control system provided main-gun stabilization for shooting on the move; and a precise laser range-finder, thermal-imaging night sights, and a digital ballistic computer solved the gunnery problem, thus maximizing the utility of the 105-mm. main gun. Assembly plants had manufactured more than 2,300 of the 62-ton M1 tank by January 1985, when the new version, the M1A1, was approved for full production. The M1A1 had improved armor and a 120-mm. main gun that had increased range and kill probability. By the summer of 1990 several variations of the M1 had replaced the M60 in the active force and in a number of Army Reserve and National Guard battalions. Tankers had trained with the Abrams long enough to have



Abrams Tank



Bradley Fighting Vehicle

confidence in it. In fact, many believed it was the first American tank since World War II that was qualitatively superior to Soviet models.

The second of the big five systems was the companion vehicle to the Abrams tank: the M2 Bradley infantry fighting vehicle, also produced in a cavalry fighting version as the M3. Its predecessor, the M113 armored personnel carrier, dated back to the early 1960s and was really little more than a battle taxi. The 1973 Arab-Israeli War demonstrated that infantry should accompany tanks, but it was increasingly clear that the M113 could not perform that function because it was far slower than the M1 and much more poorly armored.

European practice also influenced American plans for a new vehicle. German infantry used the well-armored Marder, a vehicle that carried seven infantrymen in addition to its crew of three, was armed with a 20-mm. gun and coaxial 7.62-mm. machine gun in a turret, and allowed the infantrymen to fight from within the vehicle. The French Army fielded a similar infantry vehicle in the AMX-10P in 1973. The Soviets had their BMP family of armored vehicles, which had a 73-mm. smoothbore cannon and an antitank guided missile as early as the late 1960s. Variations of the BMP were generally considered the best infantry fighting vehicles in the world during the 1980s. The United States had fallen at least a decade behind in the development of infantry vehicles. General DePuy at TRADOC and General Starry at the U.S. Army Armor Center and School at Fort Knox, Kentucky, agreed the Army needed a new infantry vehicle and began studies in that direction.

In 1980, when Congress restored funding to the Infantry Fighting Vehicle Program, the Army let contracts for prototypes, receiving the first production models the next year. Like the Abrams, the Bradley was a compromise among competing demands for mobility, armor protection, firepower, and dismounted infantry strength. As produced, the vehicle was thirty tons but carried a 25-mm. cannon and 7.62-mm. coaxial machine gun to allow it to fight as a scout vehicle and a TOW (Tube-Launched, Optically tracked, Wire-guided) missile launcher that enhanced the infantry battalion's antiarmor capability. The vehicle's

interior was too small for the standard rifle squad of nine: it carried six or seven riflemen, depending on the model. That limitation led to discussions about using the vehicle as the “base of fire” element and to consequent revisions of tactical doctrine for maneuver.

The Bradley, with its superior weapons and armor protection, could move close into the battle, unload its infantrymen for dismounted combat, and stay in position to assist the infantrymen by accurate and powerful machine-gun and antitank or antibunker fire. It was both an infantry “taxi” (the former role of the M113 armored personnel carrier) and a supporting weapons platform that could lay down a base of fire to suppress the enemy and support the infantry assault. Another critical aspect of its usefulness in the combined-arms team, however, was that the Bradley could keep up with the Abrams tank on the battlefield. If tanks and infantry fought together, they brought their own level of synergy to the battlefield. However, this could only happen if the infantry vehicle could sustain the pace and speed of the formidable M1 tank.

By 1990 forty-seven battalions and squadrons of the Regular Army and four Army National Guard battalions had M2 and M3 Bradleys. A continuing modernization program that began in 1987 gave the vehicles, redesignated M2A1 and M3A1, the improved TOW 2 missile. Various redesigns to increase survivability of the Bradley began production in May 1988, with these most recent models designated A2.

The third of the big five systems was the AH-64A Apache attack helicopter. The experience of Vietnam showed that the existing attack helicopter, the AH-1 Cobra, was vulnerable even to light antiaircraft fire and lacked the agility to fly close to the ground for long periods of time. The AH-56A Cheyenne, canceled in 1969, had been intended to correct those deficiencies. The new attack helicopter program announced in August 1972 drew from the combat experience of the Cobra and the developmental experience of the Cheyenne to specify an aircraft that could absorb battle damage and had the power for rapid movement and heavy loads. The helicopter would have to be able to fly nap of the earth and maneuver with great agility to succeed in a new antitank mission on a high-intensity battlefield.

The first prototypes flew in September 1975, and in December 1976 the Army selected the Hughes YAM-64 for production. Sophisticated night-vision and target-sensing devices allowed the pilot to fly nap of the earth even at night. The aircraft’s main weapon was the heat-seeking Hellfire missile, sixteen of which could be carried in four launchers. In place of the antitank missile the Apache could carry seventy-six 70-mm. (2.75-inch) rockets. It could also mount a combination of eight Hellfire missiles and thirty-eight rockets. In the nose, the aircraft mounted a Hughes 30-mm. single-barrel chain gun.

Full-scale production of the Apache began in 1982, and the Army received the first aircraft in December 1983. By the end of 1990 the McDonnell-Douglas Helicopter Company (which purchased Hughes in 1984) had delivered 629 Apaches to equip 19 active attack-helicopter battalions. When production was completed, the Apaches were intended to equip 26 Regular Army, 2 Reserve, and 12 National Guard battalions, a total of 807 aircraft.

The fourth of the big five systems, the fleet of utility helicopters, had already been modernized with the fielding of the UH-60A Black

Hawk to replace the UH-1 Iroquois ("Huey") used during the Vietnam War. The Black Hawk could lift an entire infantry squad or a 105-mm. howitzer with its crew and some ammunition. The new utility helicopter was both faster and quieter than the UH-1 and proved a reliable and sturdy platform during combat operations in Grenada and Panama.

The last of the big five equipment was the Patriot air defense missile, conceived in 1965 as a replacement for the HAWK (Homing All the Way Killer) and the Nike-Hercules missiles, both based on 1950s technology. The Patriot benefited from lessons drawn from design of the antiballistic missile system, particularly the highly capable phased-array radar. The solid-fuel Patriot missile required virtually no maintenance and had the speed and agility to match known threats. At the same time its system design was more compact, more mobile, and demanded smaller crews than had previous air-defense missiles. Despite its many advantages, or perhaps because of the ambitious design that yielded those advantages, the development program of the missile, initially known as the SAM-D (Surface-to-Air Missile-Developmental), was extraordinarily long, spanning virtually the entire careers of officers commissioned at the end of the 1960s. The long gestation and escalating costs incident to the Patriot's technical sophistication made it a continuing target of both media and congressional critics. Despite controversy, the missile went into production in the early 1980s; the Army fielded the first fire units in 1984.

A single battalion with Patriot missiles had more firepower than several HAWK battalions, the mainstay of the 32d Army Air Defense Command in Germany. Initial fielding plans envisaged forty-two units, or batteries, in Europe and eighteen in the United States; but funding and various delays slowed the deployment. By 1991 only ten half-battalions, each with three batteries, were active.

Originally designed as an antiaircraft weapon guided by a computer and radar system that could cope with multiple targets, the Patriot also had the potential to defend against battlefield tactical missiles such as the Soviet FROG (Free Rocket Over Ground) and Scud. About the time the first units were fielded, the Army began to explore the possibility that the Patriot could also have an ATBM, or antitactical ballistic missile, mission. In 1988 testing authenticated the PAC-1 (Patriot Antitactical ballistic missile Capability, Phase 1) computer software, which was promptly installed in existing systems. The PAC-2 upgrade was still being tested in early 1991 as it prepared for action in DESERT STORM.

The big five were by no means the only significant equipment modernization programs the Army pursued between 1970 and 1991. Other important Army purchases included the Multiple-Launch Rocket System (MLRS); a new generation of tube artillery to upgrade fire support; improved small arms; tactical wheeled vehicles, such as a new 5-ton truck and utility vehicle (the high-mobility multipurpose wheeled vehicle, or HMMWV) to replace the venerable World War II jeep; and a family of new command, control, communications, and intelligence hardware. By the summer of 1990 this equipment had been tested and delivered to Army divisions.

While most of those developments began before the Training and Doctrine Command's first publication of AirLand Battle doctrine, a close relationship between doctrine and equipment swiftly developed.

Weapons modernization encouraged doctrinal thinkers to consider more ambitious concepts that would exploit the capabilities new systems offered. A successful melding of the two, however, depended on the creation of tactical organizations properly designed to use the weapons in accordance with the doctrine. While doctrinal development and equipment modernization were under way, force designers also reexamined the structure of the field army.

Weapons modernization encouraged doctrinal thinkers to consider more ambitious concepts that would exploit the capabilities new systems offered.

New Organizations

After Vietnam the Army underwent a number of organizational changes at the higher headquarters and tactical levels. At the highest level the Army determined to reorganize its command structure for the continental United States (CONUS) and separate its essentially command and control headquarters from its training base.

Following World War II, the Army had organized its operational forces in CONUS under six U.S. armies, each with a geographic area of responsibility. The chiefs of the Army's technical services retained responsibility for depots and other specialized facilities and activities that reported directly to them. In 1955 the Army established the U.S. Continental Army Command (CONARC) to command and control the six armies in CONUS and their subordinate operational forces and in 1962 created the Army Materiel Command (AMC) and the Combat Developments Command (CDC) to manage force development and control the technical services. Over the years, CONARC's control expanded to most Army schools and the various branch boards involved with Army combat developments, the Reserve Officers Training Corps (ROTC), the U.S. Army Reserve, and support for the Army National Guard. CONARC was a multifunctional Army major command (MA-COM) responsible for active and reserve component force readiness, collective training, individual training, recruiting, and officer procurement.

During the Army's expansion for the Vietnam War, CONARC was deeply involved with training and deploying units and individuals to the theater. As the Army began the withdrawal of forces from Vietnam in 1969, General Westmoreland, the Chief of Staff, directed an extensive review of the Army's organizational structure to determine its responsiveness to current and foreseeable requirements. He commissioned several studies that examined the Army's institutional organization, including a special review panel headed by Maj. Gen. D. S. Parker of the Office of the Chief of Staff. The Parker Panel issued its report in 1970 with sixty-eight recommendations that augured a significant overhaul of the Army's existing major commands in CONUS. Except for reorganizing the Military District of Washington as an Army MA-COM, Westmoreland deferred action on most of these recommendations pending additional study by CONARC and CDC. In February 1971 CONARC completed its own study, in competition with the Parker Panel, recommending several realignments within the command but not addressing the gap between the combat development process in CDC and the Army school systems controlled by CONARC.

At an impasse between the Parker Panel and CONARC recommendations, Westmoreland in September 1971 directed his Assistant

Vice Chief of Staff, then Lt. Gen. William E. DePuy, to begin a separate Headquarters, Department of the Army (HQDA), study to examine ways to streamline CONARC's organization and resource management processes. DePuy concluded that CONARC was unwieldy, unresponsive to HQDA and the Office of the Secretary of Defense, and slow to adapt Army school curricula to incorporate doctrinal innovations coming from CDC. In February 1972 DePuy obtained the Secretary of Defense's approval to break up CONARC and CDC and reassign their functions. Arguing that the collective training and maintaining of the readiness of active and reserve component Army units in the United States was a full-time job for any commander, DePuy recommended transferring all these functions from CONARC to a forces command. He further recommended consolidating CONARC's schools with its combat developments functions from CDC into a doctrine and training command.

Armed with the Secretary's approval, DePuy drove his reorganization past protesting CONARC and CDC commanders. Westmoreland appointed Maj. Gen. James G. Kalergis as Project Manager for implementing the reorganization, Operation STEADFAST. The detailed plan transferred all Army schools except the Army War College, the U.S. Military Academy, and medical professional training schools to the new Army Training and Doctrine Command on July 1, 1973, along with the responsibility for ROTC that would come under TRADOC's new Cadet Command. TRADOC would occupy the old CONARC headquarters at Fort Monroe, Virginia. On the same day, the new Army Forces Command (FORSCOM) at Fort McPherson, Georgia, assumed command of all active and reserve Army forces in CONUS and consolidated existing armies into three Continental U.S. Armies (CONUSAs). Army CONUS medical facilities had transferred to the new U.S. Army Health Services Command on April 1. Under the STEADFAST reorganization, the Army transferred the U.S. Army Recruiting Command from CONARC to a field operating agency reporting to HQDA. It also established the Concepts Analysis Agency and Operational Test and Evaluation Agency as HQDA field operating agencies (FOAs), which assumed certain functions formerly executed by CDC.

The STEADFAST reorganization accelerated the process of creating functional major commands out of multifunctional Army commands.

STEADFAST

At the end of the Vietnam War, the Army's leadership sought to reorganize the nondeployable side of the Army (those units organized on a TDA basis). Led by Assistant Vice Chief of Staff General DePuy, an Army study group began examining ways to reduce layers of command between HQDA and the Army's major commands. The group concluded that the Army should replace its large, multifunctional major command, CONARC. The resulting reorganization, STEADFAST, divided CONARC into functional commands. FORSCOM assumed oversight of all U.S. operational units in CONUS and focused on readiness. TRADOC combined oversight of most Army schools with combat developments functions that the new command inherited from the Army's Combat Developments Command.

During the same time that STEADFAST focused on CONARC and CDC, the Army also established the U.S. Army Criminal Investigation Command and the Military Traffic Management Command as MACOMs. In 1984 the U.S. Army Information Systems Command consolidated operations from two FOAs into a separate MACOM until, pursuant to the Force XXI Functional Area Analyses, the Army subordinated this command to FORSCOM in 1997.

As in the post–World War II era, conflicting influences complicated decisions about the correct size and organization of divisions and corps. The hazards of the nuclear and chemical battlefield deeply ingrained the notion that any concentration of large bodies of troops was dangerous. Improved weapons technology further strengthened the imperative for dispersion, a trend facilitated by steadily improving communications systems. Despite that, the classic need to exert overwhelming force at the decisive point and time remained the basic prescription for winning battles.

America's isolated strategic position posed additional problems, particularly in view of the growth of Soviet conventional power in Europe in the 1960s and 1970s and the belief that the Warsaw Pact intended to fight a quick ground war that would yield victory before NATO could mobilize and before the United States could send divisions across the Atlantic. Time and politics thus governed decisions that led to forward deployment of substantial ground forces in overseas theaters and the pre-positioning of military equipment in threatened areas. Issues of strategic force projection likewise influenced decisions about the types, numbers, and composition of divisions.

Differing schools of thought within the Army tended to pull force designers in different directions. There were those, strongly influenced by the war in Vietnam, who believed that the future of warfare lay in similar wars, probably in the Third World. Accordingly, they emphasized counterinsurgency doctrine, low-intensity conflict, and light and airmobile infantry organization. Advocates of light divisions found justification for their ideas in the Soviet invasion of Afghanistan in 1979, when it appeared possible that the United States might have to confront Soviet forces outside the boundaries of Europe. That uncertainty encouraged ideas that called for the creation of light, quickly deployable infantry divisions.

Still, the emphasis within the Army throughout the decade of the 1970s remained on conventional war in Europe. Generals Abrams and DePuy and like-minded officers believed the greatest hazard, if not the greatest probability of war, existed there. They conceived of an intense armored battle, reminiscent of World War II, to be fought in the European Theater. If the Army could fight the most intense battle possible, some argued, it also had the ability to fight wars of lesser magnitude.

While contemplating the doctrinal issues that led to publication of Field Manual 100–5, General DePuy also questioned the appropriateness of existing tactical organizations to meet the Warsaw Pact threat. He believed that the Army should study the problem more closely. Thus, in May 1976 DePuy organized the Division Restructuring Study Group to consider how the Army divisions might best use existing weapons of the 1970s and the planned weapons of the 1980s.

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DePuy's force structure planners, like those concerned with phrasing the new doctrine, were also powerfully influenced by the 1973 Arab-Israeli War.

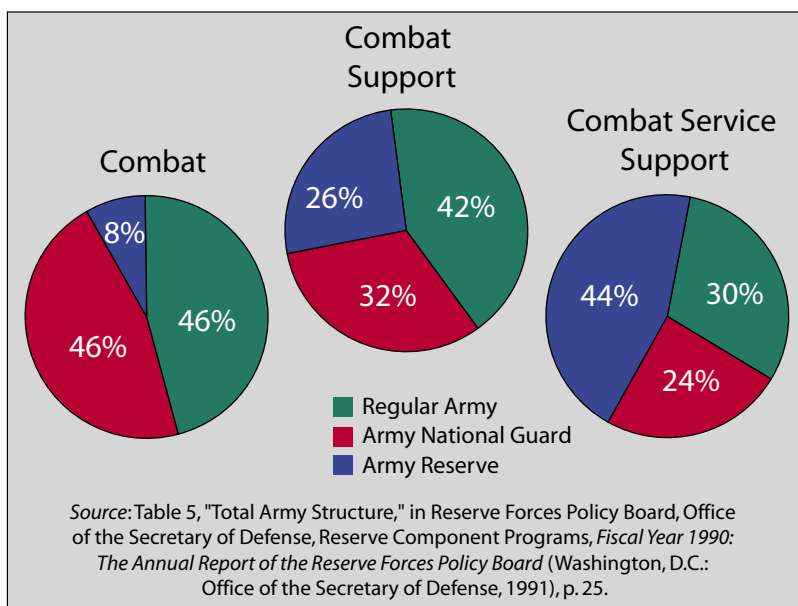
The Division Restructuring Study Group investigated the optimum size of armored and mechanized divisions and the best mix of battalions within divisions. Weapons capabilities influenced much of the work and had a powerful effect on force design. Planners noted a continuing trend toward an increasing number of technicians and combat support troops (the "tail") to keep a decreasing number of combat troops (the "teeth") in action. In general, the group concluded that the division should retain three brigades, each brigade having a mix of armored and mechanized infantry battalions and supported by the same artillery and combat-service units. To simplify the task of the combat company commander, the group recommended grouping the same type of weapons together in the same organization, rather than mixing them in units, and transferring the task of coordinating fire support from the company commander to the more experienced battalion commander. The group suggested creating a combat aviation battalion to consolidate the employment of helicopters and adjusting the numbers of weapons in various units.

General Starry, Commander of the Training and Doctrine Command, a noted cavalry leader in Vietnam, and a soldier-scholar, had reservations about various details of the Division Restructuring Study. He was especially concerned that an emphasis on the division and tactics was too limiting. In his view, the operational level of war above the division demanded the focus of Army attention. After reviewing an evaluation of the Division Restructuring Plan, Starry ordered his planners to build on that work in a study he called Division 86.

The Division 86 proposal examined existing and proposed doctrine in designing organizations that could both exploit modern firepower and foster the introduction of new weapons and equipment. In outlining an armored division with six tank and four mechanized infantry battalions and a mechanized division with five tank and five mechanized infantry battalions, it also concentrated on heavy divisions specifically designed for combat in Europe, rather than on the generic division. Anticipating a faster pace of battle, planners also tried to give the divisions flexibility by increasing the number of junior leaders in troop units, thereby decreasing the span of control.

The Army adopted Division 86 before approving and publishing the new AirLand Battle doctrine, yet General Starry's planners assumed that the new doctrine would be accepted and therefore used it to state the tasks the new divisions would be called on to accomplish. Similar efforts, collectively known as the Army 86 studies, pondered the correct structure for the infantry division, the corps, and larger organizations. Although Infantry Division 86 moved in the direction of a much lighter organization that would be easy to transport to other continents, such rapidly deployable contingency forces lacked the endurance and, frankly, the survivability, to fight alongside NATO divisions in open terrain. The search for a high-technology solution that would give light divisions such a capacity led to a wide range of inconclusive experiments with the motorized 9th Infantry Division at Fort Lewis, Washington, officially designated a high-technology test-bed unit.

Anticipating a faster pace of battle, planners also tried to give the divisions flexibility by increasing the number of junior leaders in troop units, thereby decreasing the span of control.

Chart 2: Total Army Structure, September 30, 1990

Under the Army of Excellence program, military leaders further investigated the Division 86 plans for a heavier mechanized and armored force but reconsidered the role of light divisions. In August 1983 Chief of Staff General John A. Wickham, Jr., directed the Training and Doctrine Command to restudy the entire question of organization. The resulting Army of Excellence force design acknowledged the need for smaller, easily transportable light infantry divisions for the express purpose of fighting limited wars. At the same time, the plan kept the heavy divisions of the Division 86 study with some modifications.

Thus the new force structure—five corps with a total of twenty-eight divisions—available to the U.S. Army (active and reserve) in the summer of 1990 was the product of almost twenty years of evolving design that had carefully evaluated the requirements of doctrine for battle and the capabilities of modern weapons. (*Chart 2*) Army leaders believed that they had found a satisfactory way to maximize the combat power of the division, enabling it to confidently fight a larger enemy force. The other vital task had been to devise a training system that imparted the necessary skills so properly organized and equipped soldiers could carry out their combat and support functions, effectively accomplishing the goals the new doctrine specified.

New Training

The Renaissance infantryman who trailed a pike and followed the flag, like his successor in later wars who shouldered a musket and stood in the line of battle, needed stamina and courage but required neither a particularly high order of intelligence nor sophisticated training. The modern infantryman, expected to master a wide range of skills and think for himself on an extended battlefield, faced a far more daunting

challenge. To prepare such soldiers for contemporary battle, TRADOC planners in the 1970s and 1980s evolved a comprehensive and interconnected training program that systematically developed individual and unit proficiency and then tested that competence in tough, realistic exercises. To some in the Army it seemed as if they were on the verge of a revolution in training; to others it was a return to the basics of soldier training, focused on the simple concept “Be-Know-Do.”

Individual training was the heart of the program, and the Training and Doctrine Command gradually developed a methodology for training that clearly defined the desired skills and then trained the soldier accordingly. This technique cut away much of the superfluous and was an exceptional approach to the repetitive tasks that made up much of soldier training. Once the soldier mastered the skills appropriate to his grade, skill qualification tests continued to measure his grasp of his profession through a series of written and performance tests.

The training of leaders for those soldiers became increasingly important through the 1970s and 1980s. By the summer of 1990 the Training and Doctrine Command had created a coherent series of schools to train officers in their principal duties at each major turning point in their careers. Lieutenants began with an officer basic course that introduced them to the duties of their branch of service. After a leavening of experience as senior lieutenants or junior captains, the officers returned for an officer advanced course that trained them for the requirements of company, battery, and troop command.

The new Combined Arms and Services Staff School at Fort Leavenworth instructed successful company commanders in the art of battalion staff duty. The premier officer school remained the Command and General Staff College, also at Fort Leavenworth, which junior majors attended before serving as executive and operations officers of battalions and brigades. Although all Army schools taught the concepts and language of AirLand Battle, it was at Leavenworth that the professional officer attained real fluency in that doctrine. For the select few, a second year at Fort Leavenworth in the School of Advanced Military Studies (SAMS) offered preparation as division and higher operations officers and Army strategists.

Finally, those lieutenant colonels with successful battalion commands behind them might be chosen to attend the services’ prestigious senior schools: the Army War College, Carlisle Barracks, Pennsylvania;

SAMS

In 1983 the U.S. Army Command and General Staff College at Fort Leavenworth, Kansas, established the Advanced Military Studies Program (AMSP) as a one-year course taught at the School of Advanced Military Studies. The course supplemented the Army’s Command and General Staff Officer Course or its equivalent. Intended to develop an advanced understanding of military science at the operational and tactical levels, the AMSP immersed officers in graduate-level education in operational art and advanced tactics. SAMS provided the Army with many of its top campaign planners for the late twentieth and early twenty-first centuries.

the Navy War College, Newport, Rhode Island; the Air War College, Maxwell Air Force Base, Alabama; and the National War College or Industrial College of the Armed Forces, Fort McNair, Washington, D.C. Beyond those major schools, officers might attend one or more short courses in subjects ranging from foreign language to mess management. The career officer thus expected to spend roughly one year of every four in some sort of school, either as student or as teacher.

The NCO corps also required a formal school structure, which ultimately paralleled that of the officer corps. Initially, the young specialist or sergeant attended the primary leadership development course at his local NCO academy, a school designed to prepare him for sergeant's duties. The basic noncommissioned officer course trained sergeants to serve as staff sergeants (squad leaders) in their arm or service. Local commanders selected the soldiers to attend that course.

Staff sergeants and sergeants, first class, selected by a Department of the Army board attended the advanced noncommissioned officer course, where the curriculum prepared them to serve as platoon sergeants and in equivalent duties elsewhere in the Army. At the apex of the structure stood the U.S. Army Sergeants Major Academy at Fort Bliss, Texas, where a 22-week course qualified senior sergeants for the top noncommissioned officer jobs in the Army.

Professional development, of course, went hand in hand with both individual- and unit-training programs. Progressively more sophisticated programs melded the individual's skills into those of the squad, platoon, company, and battalion. Just as the individual was tested, so were units, which underwent a regular cycle of evaluations, known at the lowest level as the Army Training and Evaluation Program (ARTEP). Periodically, both Regular Army and reserve component units in the continental United States went to the National Training Center (NTC) at Fort Irwin, California, where brigade-size forces fought realistic, unscripted maneuver battles against an Army unit specially trained and equipped to emulate Warsaw Pact forces. Brigades assigned in Europe conducted similar exercises at the Combat Maneuver Training Center (CMTC) at Hohenfels, Germany, while light forces exercised at the Joint Readiness Training Center (JRTC) at Fort Chaffee, Arkansas, later moved to Fort Polk, Louisiana.

Army tactical units were subject to further tests and evaluations, the most important of which were exercises to reinforce units in Europe, generally known as REFORGER, or Return of Forces to Germany. Similarly, units went to the Middle East in BRIGHT STAR exercises, conducted in cooperation with the armed forces of the Republic of Egypt, and to Korea for TEAM SPIRIT exercises. Periodic readiness evaluations tested the divisions' capacity for quick deployment, especially the 82d Airborne Division, long the Army's quick-reaction force, and



During an exercise at Hohenfels, tanks and observation helicopters train to work together on the battlefield.

NATIONAL TRAINING CENTER

Consisting of 1,000 square miles in the Mojave Desert midway between Las Vegas and Los Angeles, the NTC was activated at Fort Irwin, California, in 1981 as the Army's premier facility for combined-arms training for heavy battalions. The NTC exemplified the Army's training revolution initiated in the post-Vietnam/volunteer-force era that required units to "train as they would fight" and to maintain high readiness levels. A permanent opposing force, exercise observer/controllers, sophisticated instrumentation, and a live-fire range with a simulated advancing force provided realistic battlefield training and a critical evaluation of unit performance.



Infantrymen prepare to fire a TOW missile system during a training exercise.

the new light divisions that had been designed for short-notice contingency operations.

The Army entered the summer of 1990 probably better trained than at any time in its history and certainly better trained than it had been on the eves of World War I, World War II, and the Korean War. Sound training practices produced confident soldiers. Realistic exercises acquainted soldiers with the stress of battle as thoroughly as possible in peacetime. Force-on-force maneuvers, such as those at the NTC, tested the abilities of battalion and brigade commanders to make the combined-arms doctrine work and confirmed commanders' confidence in their doctrine, their equipment, and their soldiers. But as thorough and professional as Army training was, the most important fact was that all training and exercises were specifically keyed to the doctrinal precepts laid down in Field Manual 100-5. Training brought the diverse strands of AirLand Battle together.

AirLand Battle would have been merely another academic exercise, however, had the Army not attended to the problems of morale, discipline, and professionalism that were obvious at the end of the Vietnam War. By directly confronting drug abuse, racism, and indiscipline, leaders gradually corrected the ills that had beset the Army in 1972. Schools and progressive military education played a part, as did strict qualitative management procedures that discharged the worst offenders. More important, officer and NCO education stressed the basics of leadership and responsibility to correct the problems that existed at the end of the Vietnam War. Over time, in one of its most striking accomplishments, the Army cured itself through higher standards of training and better leadership.

Military Operations for the Post-Vietnam Army

Improvements in personnel, doctrine, and weapons notwithstanding, the Army that went to Saudi Arabia in 1990 was largely

untested in combat. The decades of the 1970s and 1980s were largely peaceful from the U.S. perspective, except for some low-intensity conflict operations in South and Central America. Initially, this peace was as much about concerns over American will power—the “Vietnam Syndrome”—as the lack of any threat. After the failure of the decades-long struggle to save South Vietnam from communism, American public opinion seemed allergic to the idea of using American power in other parts of the world. For a while it seemed the United States would retreat into isolation in “Fortress America” as it had so many times in the past. A series of direct threats to U.S. interests in South and Central America, however, sounded an unmistakable call for action in the 1980s and into the 1990s.

El Salvador

In 1979 a Communist-inspired takeover of Nicaragua led to Leftist insurrections in El Salvador and prompted U.S. concerns about the stability of a number of other countries in the region. Moving quickly to stem the tide, the United States focused on a combination of economic sanctions, political maneuvers, and military support to allies to cope with the threat from Communist insurgents. Various American intelligence agencies worked to undermine the Communist government of Nicaragua while the Army worked on providing open military support for the insurrection-wracked country of El Salvador. This small country was soon seen as a test case for American resolve in the use of the appropriate level of force for the emergency at hand, including advisers and limited direct military support. It was also an important test of how well we had learned our lessons from the defeat in Vietnam.

The political situation in El Salvador had been deteriorating since a military coup against the government in 1979. Successive military and civilian *juntas* had not been able to cope with the situation. In October 1980 the *FMLN* (*Farabundo Marti Liberacion Nacional*), a Communist front organization, was formed. Soon U.S. intelligence documented weapons deliveries from Vietnam through Nicaragua to the insurgents. In January 1981 the *FMLN* prematurely launched a “final offensive” to overthrow the government. The offensive was defeated, but the poorly trained El Salvadoran Army was not strong enough to destroy the guerrillas. Failure drove the insurgents back into the countryside and led to a series of attacks on military units, power lines, and other elements of the national infrastructure.

When the Salvadorans called for U.S. assistance, the U.S. Army focused on training El Salvadoran Army units using a variety of methods. The Americans trained a series of immediate reaction battalions (IRBs) in 1981 and 1982 to help stem the tide. Many of the trainers of these units included members of the newly revitalized Army Special Forces that had almost been eliminated after Vietnam. As the situation stabilized, the United States established the Regional Military Training Center in Honduras to train Salvadoran units without having to bring them to the United States and the following year organized the establishment of a similar facility inside El Salvador. As the Salvadorans became better trained in the basics of soldiering, they began to staff these facilities with their own officers and noncommissioned officers.

THE U.S. ARMY IN EL SALVADOR

Limited American military assistance to El Salvador dates from the 1940s, but with the Reagan administration's policy of turning back communism in Central America, the U.S. Army became more deeply involved. Beginning in 1981, advisers trained the El Salvadoran Army in counterinsurgency, but Congress limited their number to 55 plus a handful of Special Forces soldiers. With American aid, the Salvadoran military grew from 20,000 men (17 maneuver battalions) in 1982 to 56,000 (41 maneuver battalions) in 1987, bolstered by an increase in security assistance during the same period from \$42.2 million to \$704.7 million. It was considered a highly successful counterinsurgency campaign.

In addition to training Salvadoran soldiers, noncommissioned officers, and officers, the U.S. Army sent advisers to each of the brigade headquarters in the six military zones of El Salvador. Regular teams of advisers (generally no more than two or three officers and NCOs) lived, worked, and trained with Salvadoran soldiers for six months to a year. It was not possible to send more to each location because a 1981 agreement between the government of El Salvador and the U.S. State Department limited the number of official advisers in country to fifty-five. Many sites would have only a single officer or NCO assigned, making close cooperation with Salvadoran counterparts a matter of life or death. However, U.S. advisers were strictly prohibited from engaging in offensive combat operations to avoid giving the impression that this was a U.S.-led war. The lesson learned from Vietnam was clear; the host nation had to fight its own war.

There were times, of course, when the strict adherence to the combat prohibition rule was not enough. The fight often came to the adviser. Given the nature of guerrilla war, an attack could occur at any El Salvador *cuartel* (fortified army camp) at any time. In the most publicized incident, which led to the death of a Special Forces NCO, the *FMLN* guerrillas attacked the headquarters of the 4th Infantry Brigade in El Paraíso, Chalatenango. The attack on March 31, 1987, included demolitions and mortars and was preceded by effective infiltration of the camp by well-trained assault squads. Sixty-four Salvadoran soldiers were killed and seventy-nine wounded. Staff Sgt. Gregory A. Fronius of the 3d Battalion, 7th Special Forces Group (Airborne), was killed while attempting to organize the resistance to the attack.

In 1988 a similar attack on the 4th Brigade *cuartel* found the Salvadorans and their U.S. advisers more prepared. Despite some initial success in penetrating the wire, the El Salvadoran Army forces and U.S. advisers fought back and by dawn had recaptured the camp. At least 11 enemy guerrillas were killed at the cost of 17 friendly killed and 31 wounded.

Despite some continuing concerns about potential human rights abuses by Salvadorans, the U.S. advisory effort in El Salvador was remarkably successful. The professional training imparted to the Salvadoran military led to ultimate success on the battlefield against the guerrillas. Despite some military setbacks and the increase of international support to the enemy, the Salvadoran military fought back and beat the

guerrillas to a standstill. When the final “final” offensive of the *FMLN* was launched in 1989, the Salvadoran military took some hard hits but rallied and decimated the rebels. Free elections, supported by the majority of the people, soon showed the world that the Communists had little public support. The *FMLN* was forced to seek victory through a political solution; a military victory was no longer an option.

Not only had U.S. advisers worked to make the El Salvadoran Army a more effective military force, they also helped ensure that its human rights record improved. Cases of human rights abuse by the military dropped dramatically over the decade as the El Salvadoran Army slowly recognized that such abuses only cost it popular support. Civic action projects, information programs, and a greater respect for the citizenry paid off for the El Salvadoran Army. Finally, on January 16, 1992, the *FMLN* signed peace accords with the government. In return for ending the armed struggle, the *FMLN* was recognized as a legitimate political party and would participate in the political life of the country. In addition, the government agreed to enact land- and judicial-reform measures, and to create a new, less politicized police force. As a side effect, the United States showed the world that it was capable of sustaining a long politico-military struggle in support of an ally when the stakes were high enough.

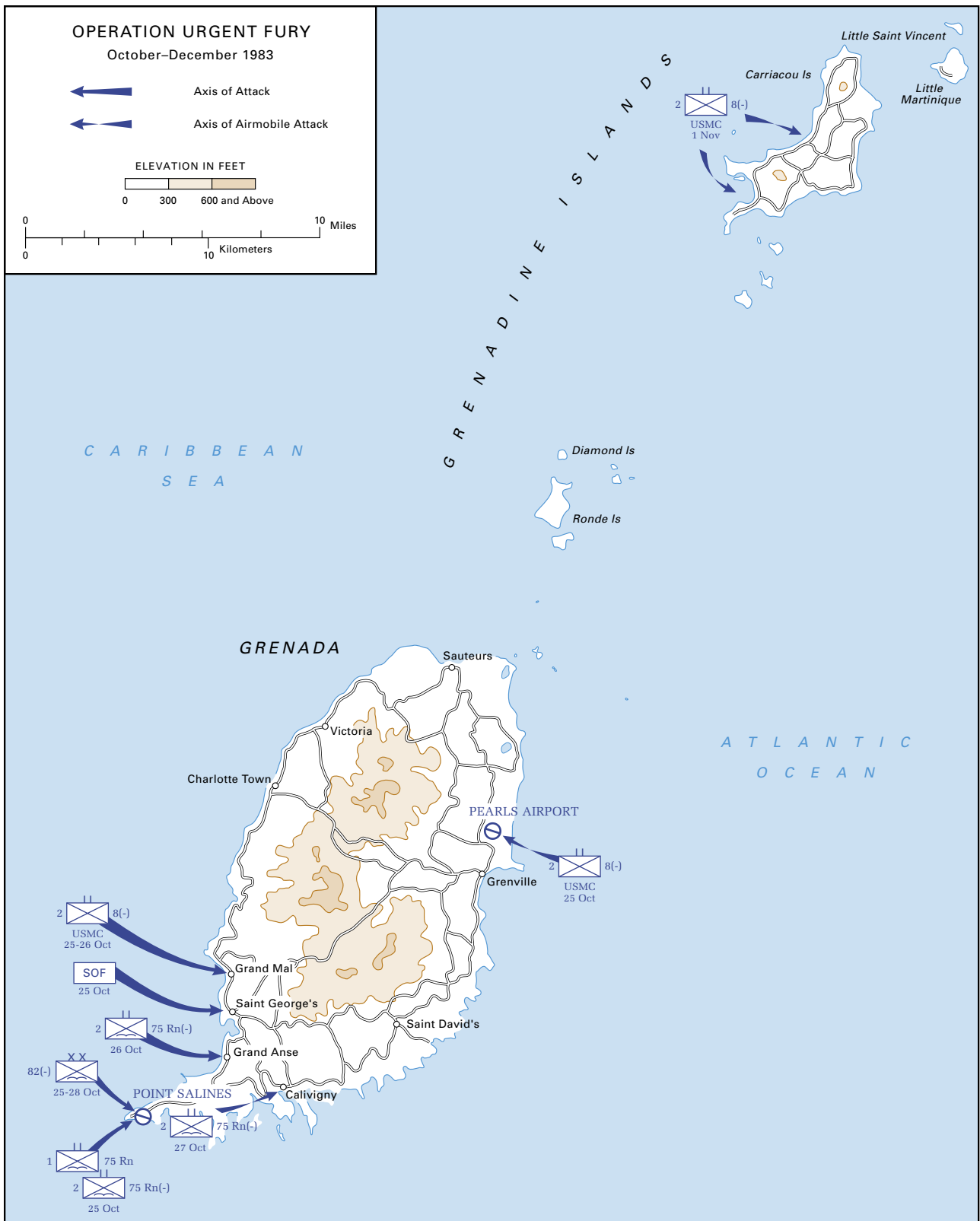
Between Vietnam and DESERT STORM, other than a limited military assistance role in the 1980s in the covert support to anti-Sandinista forces opposing the Leftist government in Nicaragua, there were only two other instances of limited combat actions. Neither was a full test of AirLand Battle doctrine, and neither gave very many soldiers experience under fire. Nevertheless, they infused the soldiers with increasing confidence and provided a useful testing ground for some new equipment and concepts.

Grenada

A bloody coup on the small Caribbean island of Grenada and the possible involvement of Cuba in those troubled waters prompted the United States to launch a hasty invasion, Operation URGENT FURY, in October 1983. (See Map 22.) This involved fewer than 8,000 Army soldiers, with actual Army combat limited to the 1st and 2d Battalions of the 75th Rangers, two brigades of the 82d Airborne Division, and some Special Forces elements. In fact, Army strength on the island during the period of combat probably did not exceed 2,500; the heaviest combat, occurring during the first hours of the landing on October 25, was borne by Company A, 1st Battalion, 75th Rangers. The operation, though successful, pointed out a number of problems with joint operations, especially communications and



Members of the 82d Airborne Division on Patrol during Operation URGENT FURY. Two of the soldiers on the road have M47 Dragon antitank weapons.



Map 22

command and control. It highlighted the necessity of all the services to work and train together to achieve true synergy of operations, with the unique strength of each service working to complement the strengths of the others and cover for any weaknesses.

Invasion of Panama

The fighting during Operation JUST CAUSE in Panama in December 1989 was similarly limited. However, the highly successful nature of such a complex operation pointed out just how well the U.S. Army had learned the lessons of a decade of training and preparation.

The origins of the U.S. invasion of Panama are complex. Forty years of finely balanced confrontation with the Soviet Union had induced the United States to cooperate with many unsavory international leaders. Panama's General Manuel Antonio Noriega was among the worst. The last free election in Panama had been in 1968, when a military coup expelled the populist Arnulfo Arias from the Presidency he had won at the ballot box. Noriega, a capable intelligence officer at the time, ingratiated himself with the new military leadership of Panama by ruthlessly facilitating their consolidation of power. He subsequently gained a measure of favor with the United States by assisting the Central Intelligence Agency in covert operations against Nicaraguan and Salvadoran Leftists. Ultimately he himself attained absolute power, his rise assisted by blackmail, fraud, corruption, intimidation, drug dealing, and outright murder.

As the Cold War wound down, it became more difficult for the U.S. government to overlook Noriega's crimes. He was indicted in a Florida court for his direct involvement in the drug trade and was also suspected of colluding with Communist Cuba to help it avoid economic sanctions, as well as smuggling illicit arms to Colombian rebels. He sustained a brutal campaign of intimidation against critics and opponents and stood accused of spectacular, grisly political murders. When American leaders expressed concern with his outrageous behavior, Noriega turned his intimidation efforts against American soldiers and civilians in the Panama Canal Zone. His heavily armed Panama Defense Force (PDF) and paramilitary "dignity battalions" began a campaign of harassment that ebbed and flowed with Noriega's whims and with the current volume of criticism from Washington. Because of national preoccupations elsewhere, American military leaders in the Southern Command (SOUTHCOM) were ordered to handle the abuses quietly. Ultimately the PDF murdered an American marine, and the United States could turn the other cheek no longer.

Fortunately, the newly assigned SOUTHCOM commander, General Maxwell Thurman, was well along in planning an invasion of



Soldiers with an M113 armored personnel carrier guard an entrance to Gorgas Army Community Hospital in Panama.



General Thurman

Panama when the political decision to do so was made. Under the operational command of the XVIII Airborne Corps out of Fort Bragg, North Carolina, 13,000 soldiers from a half-dozen major posts across the United States airlifted into Panama to join the 13,000 soldiers and marines already there. H-hour was 1:00 A.M. on December 20, 1989. At that time the Americans simultaneously assaulted the two battalions, ten independent infantry companies, cavalry squadron, and special forces command of the PDF at over a dozen localities while fanning out to secure American lives and property in over a dozen more locations. (*See Map 23.*)

Typical of the fighting was the airfield takedown at Rio Hato, seventy-five miles west of Panama City. At H-hour two F-117A stealth fighter-bombers delivered two 2,000-lb. bombs in an attempt to stun the soldiers of two heavily armed infantry companies defending the airfield. Thirteen C-130 transport aircraft, having flown nonstop from the United States, parachuted in two battalions of rangers from the dangerously low altitude of 500 feet. Gathering quickly in the darkness, two companies of rangers fanned out to isolate the airfield, cut the Pan-American Highway running through it, and seize a nearby ammunition dump. Meanwhile, another company attacked a nearby NCO academy complex and yet another struck the two PDF companies deployed to defend the airfield.

The fighting turned into a ferocious exchange of fire, with the ground fire of the rangers heavily reinforced by fires from an AC-130 gunship and attack helicopters. Contested buildings fell in room-to-room fighting following a liberal use of grenades and automatic rifles at close ranges. Within five hours the rangers had secured Rio Hato, including Noriega's lavishly appointed beach house nearby. At Rio Hato, the Americans killed 34 Panamanians and captured 405 plus a huge inventory of weapons, themselves losing 4 killed, 18 wounded, and 26 injured in the jump. The fighting had been confusing and brutal but brief and decisive.



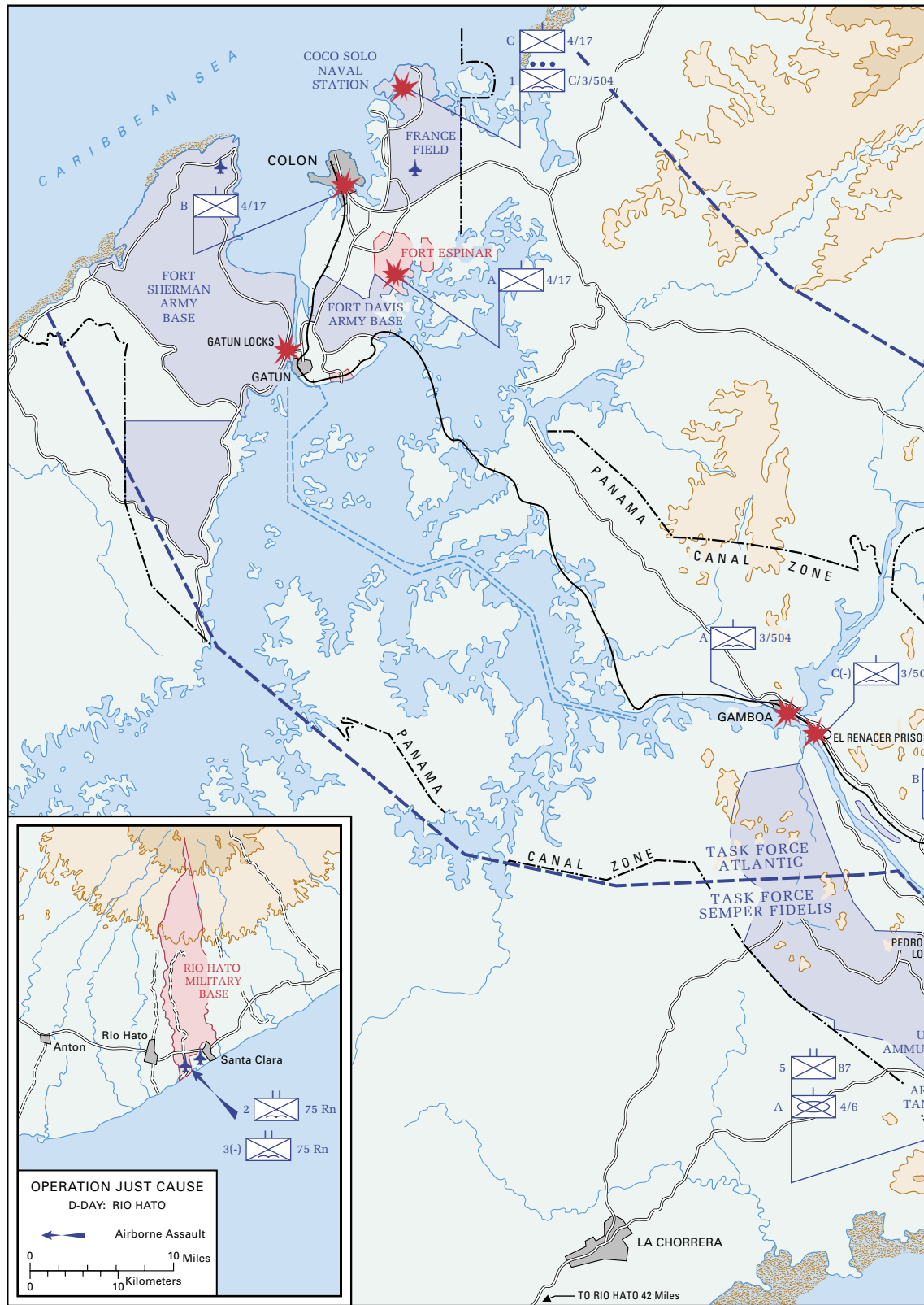
Air Assault, Tinajitas, Al Sprague, 1990

In many cases urban settings and the proximity of civilians—in particular American civilians—complicated the nature of the fighting. The PDF's La Comandancia Headquarters, for example, in the heart of Panama City, was seized only after a tough firefight. M113 armored personnel carriers found themselves peppered by fire from surrounding buildings as they pushed their way through obstacles en route. Operations assumed a third dimension when the Americans had to clear PDF snipers floor by floor from high-rise apartments. At Fort Amador, the firepower was less intense but the situation just as tricky; PDF objectives to be secured or neutralized were within a hundred meters of an American housing area, wherein dependents were still sleeping. At Omar Torrijos International Airport, some PDF soldiers attempted to escape by hiding among 300-plus passengers from a stranded Brazilian airliner and others attempted to escape by making hostages of American passengers. In some cases PDF soldiers and dignity battalion members fought in civilian clothes. As careful and disciplined as the American soldiers were, they could not altogether avoid civilian casualties in this confused and intermingled fighting. Somewhat more than 200 nonhostile Panamanian civilians were killed in the crossfire.

Within eight hours serious fighting ceased and the Panama Defense Force had been effectively subdued, thanks to a number of factors. Most of the fighting occurred in the dark; and the Americans had overwhelming advantages with respect to night combat, including more-effective night-vision devices. Such devices, in their infancy during Vietnam, were now sufficiently refined to provide near-daytime light quality or thermal imaging and were available to individual soldiers as well as to crew-served weapons. Even more important, American units had trained extensively in night fighting and were fully prepared to make the best use of their technical advantages. The Americans also enjoyed absolute air supremacy and had sufficient airlift to parachute or helicopter to dozens of targets at the same time—with overwhelming force at each such target. Air power meant radically enhanced firepower as well, particularly with respect to the formidable AC-130 Spectre gunships and deadly efficient munitions. A final and in some ways decisive advantage was that the Americans were long familiar with Panama and were not only exhaustively trained but also carefully rehearsed for their combat roles. Indeed, in many cases American soldiers had driven through, physically observed, or even exercised on their H-hour objectives during the weeks prior to the attack. The combat



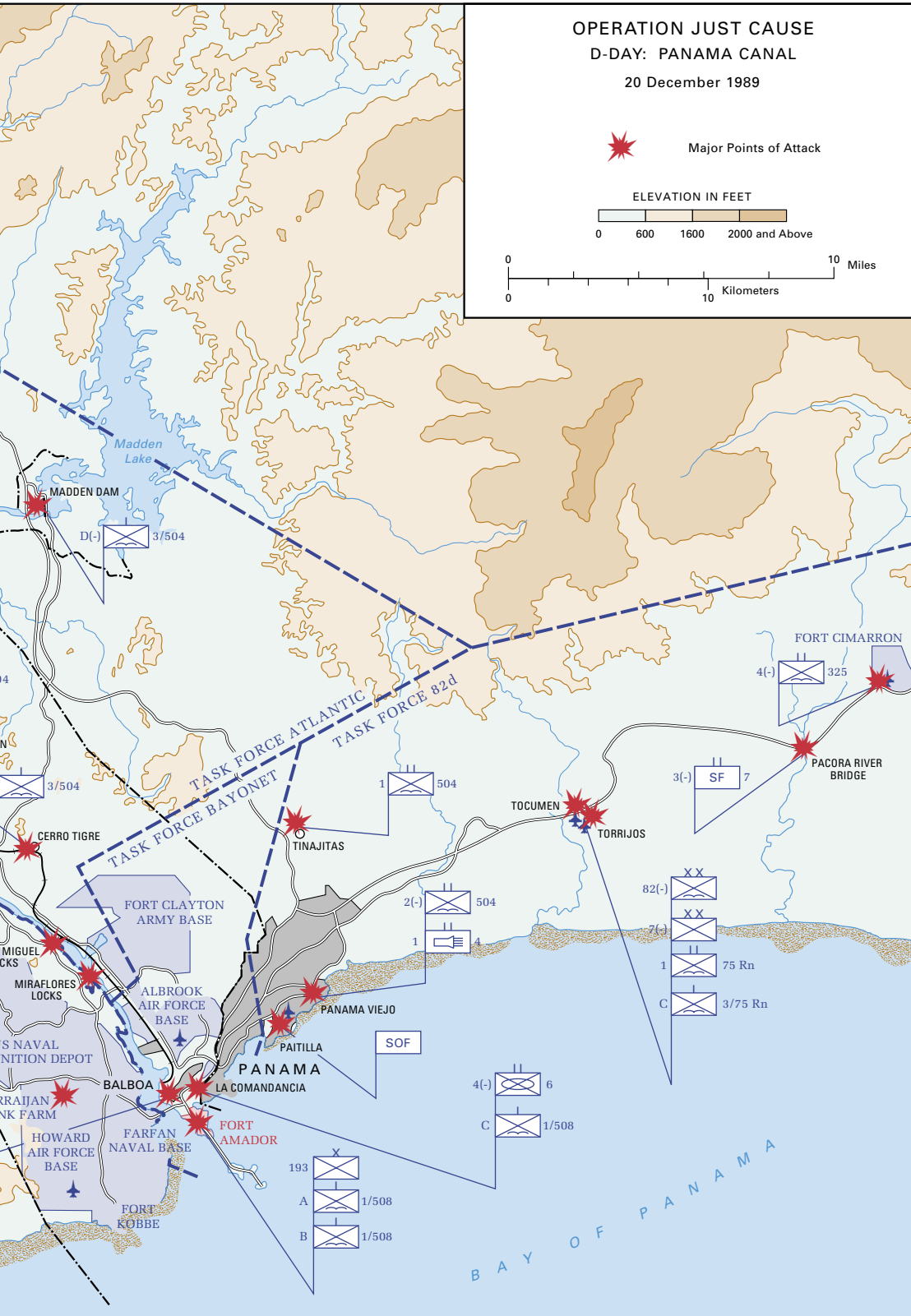
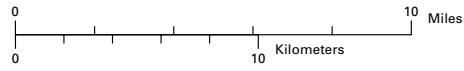
Final Glory (Father Ortiz), *Al Sprague*, 1990



Map 23

Major Points of Attack

Number of Children	Frequency
0	100
600	100
1600	100
2000 and Above	100



results were correspondingly lopsided; the Americans lost 26 killed and 325 wounded to the 314 killed and thousands of captured or wounded Panamanians.

Operations in Panama quickly shifted from combat to peacekeeping. The legitimately elected government was restored to power within days of the invasion. The American soldiers were welcomed as liberators virtually everywhere, which greatly eased such tasks as restoring law, order, public utilities, and civil government. Noriega had fled the fighting almost immediately, hidden in one refuge and then another, and ultimately sought asylum in the Papal Nunciature, which American troops quickly surrounded. He surrendered after a short siege. While frustrating for a number of days, Noriega's neutralization took the heart out of whatever sustained resistance the PDF or dignity battalions might have contemplated: open opposition collapsed. The American military presence in the Canal Zone soon dropped to precrisis levels, and U.S. attention turned to building a new Panamanian police force to replace the corrupt PDF. On December 14, 1999, true to earlier commitments, the American government surrendered its 100-year lease in Panama and shortly thereafter evacuated its military forces from the Canal Zone.

Neither URGENT FURY nor JUST CAUSE offered serious opposition of the kind the Army had been training for decades to meet. Far and away the most important aspects of both of these interventions were their utility in testing the effectiveness of U.S. joint forces command and control procedures, in which both operations, as well as subsequent joint deployments, revealed continuing problems. Joint doctrine and joint warfighting was so great a concern of Congress that it had created in 1986, after a major legislative struggle, the Goldwater-Nichols Defense Act that gave additional power to the Chairman of the Joint Chiefs of Staff, established the office of Deputy Chairman, and created seven warfighting Commanders in Chief to conduct joint military operations in their respective geographic regions or, in the case of the newly created U.S. Special Operations Command, anywhere in the world. (*See Map 24.*) The Army would have to fight all its future wars as part of a joint, if not combined, team.

GOLDWATER-NICHOLS

In 1986, after three years of testimony by retired military leaders and defense experts in favor of various reforms, Congress passed the Goldwater-Nichols Department of Defense Reorganization Act. As with past reorganizations, Goldwater-Nichols made provision for restructuring the Defense Department to address immediate needs rather than seeking to mandate a comprehensive overhaul. The act strengthened the authority of the Secretary of Defense and gave the Chairman of the Joint Chiefs of Staff and the combatant commanders an enhanced role in operational planning, officer assignments, and service program review. The Goldwater-Nichols Act overhauled headquarters functions within the three military departments, transferring oversight of such areas as financial management; information management; and research, development, and acquisition from the Army Staff to the Army Secretariat. Goldwater-Nichols has generally succeeded in its primary goal of forcing the services to become more tightly integrated within the Defense Department and more focused on joint warfare.

The Army at the End of the Cold War

Army accomplishments over the years between the end of the Vietnam War and the end of the 1980s were impressive. By 1990 the claim could be made reasonably that the service had arrived at a sound doctrine, the proper weapons, an appropriate organization, and a satisfactorily trained, high-quality force to fight the intense war for which Generals DePuy and Starry and their successors had planned. International developments in the first half of the year seemed, however, to have made the Army's modernization unnecessary. The apparent collapse of Soviet power and withdrawal of Soviet armies into the Soviet Union itself, the disintegration of the Warsaw Pact and even the dismemberment of the Soviet Union, and the pending unification of Germany removed almost all the justifications for maintaining a powerful presence in Europe. In view of all these developments, the immediate political question was whether the nation felt it needed to maintain such a large and expensive Army. In the interests of fiscal retrenchment, the Army projected budgets for the subsequent five years that would decrease the total size of the active service from approximately 780,000 in 1989 to approximately 535,000 soldiers in 1995. It seemed as if America, looking for a "peace dividend," would indulge in its normal belief that the end of one war meant that permanent peace was now the order of the day and we could dismantle our "bloated" military establishment.

Even after the Iraqi invasion of Kuwait and while Army units were in the midst of frantic preparations for movement to Saudi Arabia, Army organizations concerned with downsizing the service to meet the long-range strength ceilings continued to work. QUICKSILVER and VANGUARD task forces had deliberated on the size of the Army's field and base force structure, recommending inactivations that now directly affected the forces preparing to deploy to the Middle East. The Army 2000 study group at HQDA considered the implications of such decreases in size and pondered the ways a smaller Army could continue to carry out its major missions. Among the major actions that the group managed in July and August 1990 was a scheduled command post exercise named HOMEWARD BOUND, designed to test a possible removal of Army units from Europe. Army 2000 staff officers also weighed concerns voiced at the highest levels of the service that the drive to save defense dollars would not produce another "hollow" force and thus repeat the disaster of Task Force SMITH in July 1950 at the start of the Korean War.

Department of the Army planners in operations and logistics found themselves in the anomalous situation of pulling together the combat and support units scheduled for deployment to the Middle East at the same time their colleagues in personnel were proceeding with plans for a reduction in force. The Army temporarily suspended the latter plans when the deployment to Saudi Arabia was announced, and orders went



A U.S. Soldier on Watch along the East/West German Border



Map 24



out suspending retirements from active duty and routine separations from the Army. Still, uncertainty about the future, both for individuals and for major Army units, persisted as the Army prepared for overseas service and possibly for war.

The important questions blunted the edge of pervasive official optimism as the Army deployed to the Middle East during the summer of 1990. Chief among them was how well the new weapons would perform. The Abrams tank and Bradley fighting vehicle had never faced combat. Neither had the Multiple Launch Rocket System, the Patriot missile, the AH-64A Apache, nor modern command, control, and communications mechanisms that were supposed to weld those sophisticated implements into a coherent fighting system. Problems with weapons procurement over the preceding decade had conditioned many to doubt how well the new high-technology weapons would perform. As a result, despite a highly trained force, many skeptics doubted the Army's ability to sustain a major land campaign against a determined foe. When Saddam Hussein invaded the tiny but oil-rich country of Kuwait in August 1990, many voices predicted a hard fight, if not outright disaster. These critics, many unaware of the Army's startling renaissance during the nearly twenty years since the Vietnam War, did not realize that the United States was sending to the Persian Gulf the best-prepared force America had ever had at the beginning of a foreign war.

DISCUSSION QUESTIONS

1. Why was the post-Vietnam Army in such poor shape? What did the Army leadership have to do to turn things around?
2. Discuss the advantages and disadvantages of an all-volunteer Army. In what ways was Selective Service beneficial and/or harmful to the nation?
3. What continuing role do ground combat forces have in the modern world of high-tech war, computers, satellites, and increasingly powerful air forces?
4. How did Army doctrine change in the 1970s? What lessons do you think the Army learned from its Vietnam experience as it crafted new ways to fight?
5. What were the challenges in integrating women into the Army? Could the Army have done it differently? Should women serve in the combat arms?
6. How did the roles of the Army Reserve and National Guard change in the 1970s? What are the continuing strengths and weaknesses of the Army Reserve and National Guard in comparison with the Regular Army?

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